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APPENDIX

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INVITED COMMENTARY

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Sanchez Munoz-Torrero and the RIETE investigators report that older patients with acute deep vein thrombosis (DVT) have a higher mortality from bleeding than pulmonary embolism (PE) in the first 3 months. Although point estimates are low, their observations may be surprising to most readers. Their findings reaffirm prior observations that major bleeding events from anticoagulation, particularly vitamin K antagonists (VKAs), occur early in the course of therapy.

This robust database has provided enormous insight into the outcome of patients with DVT and PE. Most recurrences follow the initial event, that is, patients presenting with PE will have PE as a recurrent event, and those presenting with DVT recur with DVT. That was also the case in these patients.

The authors also showed that the diagnosis of DVT carries an early mortality ranging from 6% to 11% in patients ≥60 years of age. The majority of the fatalities that were observed occurred beyond the first week of therapy; therefore, one would assume that the majority of the patients were being treated with a VKA. Two factors on multivariate analysis were found to correlate with fatal PE: chronic lung disease and malignancy. However, eight factors were associated with fatal bleeding: age (upper decades), low body weight, recent major bleeding, renal dysfunction, bilateral DVT, cancer, immobility ≥4 days, and prior venous thromboembolism. Aside from renal dysfunction, low body weight, and recent major bleeding, it is difficult to integrate the bleeding risk factors to modify clinical care. The authors tabulated outcome events by decade of life in Table II. The most impressive discrepancy in mortality occurred in the patients ≥80 years of age, where major/fatal bleeding occurred in 3.6% vs thrombotic events in 1.7%. Eleven percent of this age group died within this 3-month window.

It is reasonable to assume that all major bleeding will be clinically apparent and therefore accurately recognized. However, that is not the case with fatal PE. To fulfill the definition of fatal PE, the patients must have experienced an objectively confirmed PE followed by death within 10 days. Therefore, sudden unexplained deaths, which more commonly would occur out of the hospital, would not be recorded as a fatal PE by the authors' definition. As they recognized, the rate of fatal PE may be underestimated. This is not to detract from the value of this report nor the importance of the RIETE registry.

The authors observe that in older patients, the risk of fatal bleeding exceeds the risk of fatal PE in patients presenting with acute DVT. Clinicians might assume that less aggressive anticoagulation therapy with VKAs might be indicated. Unfortunately, that cannot be substantiated by observations from a prior randomized trial.[1] It will be interesting to observe how guideline writing committees respond to the important observations reported by the RIETE investigators.

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